REMARKS/ARGUMENTS

This is intended to be a complete response to the official action mailed July 13, 2006 in which claims 1-2 were rejected. Claims 1 and 2 have been amended herein.

The specification and abstract have been amended in accordance with the examiner's suggestions.

Specification

The specification has been amended in accordance withthe examinter's suggestion. Withdrawal of the rejection is hereby requested.

Sequence Listing

In the official action it was stated:

> "This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825; applicant's attention is directed to the final rule making notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). To be in compliance, applicant is required to identify all amino acid sequences of at least 4 L- amino acids and at least 10 nucleotides by a sequence identifier, i.e., "SEQ ID NO:". The specification discloses sequences that have not been identified by a sequence identifier, see for example, page 16, Table I and the text below the Table."

Applicants direct examiner's attention to the Preliminary Amendment (Attachment A) filed May 24, 2004 in which a new Table 1 and legend therebelow was submitted, along with a new sequence listing, providing additional sequences SEQ ID NOS:12-20, as previously represented in originally filed Table I. No new matter has been added. New copies of the preliminary amendment (Attachment A), and sequence listing are submitted herewith for the examiner's convenience.

Rejection under §101

Claims 1-2 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. "Claims 1-2 are drawn to an alpha 2-antiplasmin protein, which reads on a product of nature. The claims should be amended to indicate the hand of the inventor, for example the insertion of "isolated" or "purified" in connection with the protein to identify a product not found in nature (see MPEP 2105)."

Claims 1 and 2 have been amended to indicate the claimed enzyme in "purified", thereby mooting the rejection. Reconsideration and withdrawal is requested.

Rejection under §102

Claim 1 stands rejected under 35 U.S.C. 102(b) as being anticipated by Ludwig Institute For Cancer Research (WO 97/34927, 28 September 1997).

"The reference discloses a sequence that is identical to the claimed SEQ ID NO:1 (N-terminus) and SEQ ID NO:4 (internal sequence) with a 100% sequence identity. In addition, the reference discloses a dimeric form of the claimed protein."

Applicants respectfully traverse. Although the protein identified in WO 97/34927 includes sequences that are identical with the sequence of the enzyme claimed herein, the proteins are not identical.

First , the presently claimed protein (α_2-antiplasmin cleaving enzyme) possesses enzymatic activity (cleavage of precursor α_2-antiplasmin at the pro12-asn13 bond) which is not possessed by the fibroblast activation protein alpha (FAPα) of the '927 reference. Contrary to the examiner's assertion, all of the limitations of the claim are not met by the reference since APCE and FAPα do not possess the same enzymatic activity.

Second, in the presently claimed enzyme (α_2-antiplasmin cleaving enzyme), SEQ ID NO:1 is the N-terminal sequence of the protein. In FAPα, there is 23 amino acid sequence (MET(1) - Cys(23)) which comprises the N-terminal amino acid sequence of the protein (see wo 97/34927- cited by the examiner).

The N-terminal portion of the presently claimed protein is thus distinctly different from the N-terminal portion of the FAPα protein.

Third, in the publication by Schmidt et al., attached hereto as Attachment B, it is explicitly stated (p. 1730, col. 2) that:

"FAP is a locally expressed membrane molecule with no detectable soluble cleavage products in the circulation, favoring enrichment of targeted substances at the tumor site." (Emphasis added).

Thus, while the presently-claimed APCE protein may be a cleavage product of FAPα with the membrane-binding portion cleaved therefrom, the conventional wisdom in the art as expressed by Schmidt et al., prior to the present invention, is that no soluble cleavage product of FAPα exists. The prior art thus teaches away from the present invention.

In summary, (1)FAPα does not possess the same antiplasmin cleavage activity as APCE, (2) FAPα has a different N-terminal portion from APCE, and (3) the prior art asserted that a soluble cleavage product of FAPα does not exist. For all of these reasons, the present claims are not anticipated under §102, nor obvious under §103, over the Ludwig reference.

In view of the above, applicants respectfully request reconsideration and withdrawal of the rejection under 35 USC §102(b).

Conclusion

In view of the above, Applicants respectfully submits that the claims are now in a condition for allowance and requests issuance of a Notice of Allowance therefor.

Respectfully submitted,

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